

REMARKS

Claims 1 and 4-21 are presented for examination. Claims 1 and 4-11 are allowed.

Claims 12-17, 19 and 20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen et al. and Daines et al. Dependent claims 18 and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Petersen et al., Daines et al. and Allison. These rejections are respectfully traversed for the following reasons.

Independent claim 12 recites a network interface device for providing an interface between a data network and a computer system, the network interface device comprising:

- a descriptor management unit for managing receive descriptors pointing to receive buffers allocated to receive data from the network medium, and
- an automatic flow control mechanism for automatically performing flow control in accordance with the number of available receive descriptors pointing to the receive buffers available for receiving data from the network medium.

Independent claim 19 recites a method of automatic flow control in a network interface between a data network and a computer system. The method comprises the steps of:

- monitoring the number of receive descriptors pointing to buffers in the computer system available for receiving data from the network, and
- automatically requesting a remote station in the data network to suspend data transmission when the number of receive descriptors falls below a first preprogrammed threshold level.

The Examiner relies upon Petersen for disclosing the claimed descriptor management unit for managing receive descriptors pointing to receive buffers allocated to receive data from the network medium.

The Examiner admits that Petersen does not disclose an automatic flow control mechanism. However, he relied upon Daines for disclosing this claimed element.

Considering the references, Petersen discloses a buffer memory including a transmit descriptor buffer for storing transmit descriptors identifying data in the host system's address space to be downloaded to the buffer memory for later transmission. The buffer memory also includes a receive ring buffer and a transfer descriptor buffer. The receive ring buffer stores frames of data being received. The transfer descriptor buffer stores a descriptor of locations in the host address space to which received data is to be uploaded (col. 2, lines 15-34).

The network interface of Petersen also includes receive logic and transmit logic. The receive logic moves data received from the network transceiver into the receive ring buffer. The transmit logic is responsive to transmit descriptors for retrieving data to be transmitted (col. 2, lines 51-60).

Accordingly, Petersen does not disclose a descriptor management unit for managing **receive descriptors pointing to receive buffers allocated to receive data from the network medium**, as claim 1 requires.

Also, Petersen does not disclose monitoring **the number of receive descriptors pointing to buffers in the computer system available for receiving data from the network**, as claim 19 requires.

As the Examiner appears to admit, Daines also does not disclose the above-indicated claimed elements.

Further, Daines discloses a flow control mechanism including a level indicator indicating the amount of data stored in the buffer. Preset high and low threshold levels define the maximum data level and a "restart" level (col. 6, line 58 to col. 7, line 4). The flow control device 25

monitors the level indicators for each buffer to determine if the amount of data stored therein exceeds a threshold level (col. 7, lines 6-9).

Accordingly, Daines does not teach or suggest:

-an automatic flow control mechanism for automatically performing flow control **in accordance with the number of available receive descriptors pointing to the receive buffers available for receiving data from the network medium**, as claim 1 requires, and

- automatically requesting a remote station in the data network to suspend data transmission **when the number of receive descriptors falls below a first preprogrammed threshold level**, as claim 19 requires.

As the Examiner admits, Petersen also does not disclose these features.

It is noted that the Examiner has failed to provide an adequate reason for combining Petersen and Daines. However, even assuming *arguendo* that Petersen were combined with Daines, the claimed invention would not result.

In particular, as discussed above, none of the applied references discloses:

-elements for managing receive descriptors pointing to receive buffers allocated to receive data from the network medium, and

- elements for automatically performing flow control in accordance with the number of available receive descriptors pointing to the receive buffers available for receiving data from the network medium, as claim 1 recites.

Accordingly, a combination of Petersen and Daines would not teach or suggest these elements.

Also, none of the applied references discloses;

-monitoring the number of receive descriptors pointing to buffers in the computer system available for receiving data from the network, and

- automatically requesting a remote station in the data network to suspend data transmission when the number of receive descriptors falls below a first preprogrammed threshold level, as claim 19 recites.

Accordingly, a combination of Petersen and Daines would not teach or suggest these steps.

It is well settled that the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art. *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985). In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification. *In re Lulu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1984).

As demonstrated above, combined teachings of Petersen and Daines are not sufficient to arrive at the inventions claimed in independent claims 1 and 19.

Accordingly, the Examiner's conclusion of obviousness is not warranted.

In view of the foregoing, and in summary, claims 1 and 4-21 are considered to be in condition for allowance. Favorable reconsideration of this application is respectfully requested.

Application No.: 09/482,327

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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